



UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*EX PARTE* GREGORY M. GLENN ET AL.

APPLICATION NO. 10/684,583

FILING DATE: OCTOBER 15, 2003

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BRIEF ON APPEAL

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**REAL-PARTY-IN-INTEREST**  
**(37 C.F.R. § 41.37(C)(1)(i))**

The Appellants in the present appeal are Gregory M. Glenn, Damon Silva, and Timothy Henry — the named inventors of U.S. patent application 10/684,583 (the '583 Application). The real-party-in-interest and assignee of record is Cumulous Communications Corp. of Hanford, California. An assignment by and between the Appellants and Cumulous Communications Corp. is recorded at Reel 017152 and Frame 0427 of the U.S. Patent Office's Assignment Division.

**RELATED APPEALS AND INTERFERENCES**  
**(37 C.F.R. § 41.37(C)(1)(ii))**

The Appellants, the real-party-in-interest, and their undersigned representative are unaware of any related appeals and interferences that are concluded, ongoing, or otherwise prospective as of the date of submission of this BRIEF ON APPEAL.

**STATUS OF THE CLAIMS**  
**(37 C.F.R. § 41.37(C)(1)(iii))**

Independent claim 1 is presently pending. Dependent claims 2-5, 10, 13,-15, 21, 26-29, 35, and 36 are likewise pending and dependent (either directly or via an intermediate dependent claim) upon one of the aforementioned independent claims. All claims have been (at least) twice rejected. No claims have been allowed or are otherwise objected to by the Examiner. Claims 6-9, 11-12, 16-20, 22-25, 30-34, and 37-96 have been canceled.

The Appellants have elected to appeal only the rejection of independent claim 1 and dependent claim 15. These elections are made for purposes of administrative efficiency of the Board of Patent Appeals and Interferences and to maintain the focus and clarity of argument. These elections should not be construed as a concurrence as to the basis for the rejection for any other claim of the '583 Application.

**STATUS OF AMENDMENTS**  
**(37 C.F.R. § 41.37(C)(1)(iv))**

As filed on October 15, 2003, the '583 Application included 96 total claims; claims 1, 37, 55, 73, 90, and 95 were independent. A non-final office action mailed June 29, 2005, indicated the pendency of claims 1-96. In a response dated September 29, 2005, claims 1, 6-10, 12-14, 19, 21, 23, 25, 29-33, 36-37, 40-44, 46, 48-50, 54-55, 59-60, 62, 64, 70, 72-73, 75, 77-78, 80, 82, 84, 86, 88, 90, and 95-96 were amended.

A final action mailed November 29, 2005, indicated the pendency of claims 1-96 and noted "Applicant's arguments" from the September 29, 2005, response. (*NOVEMBER 29, 2005 FINAL OFFICE ACTION*, 4.) A further amendment was presented in the response dated January 30, 2006. In this response, independent claims 1, 37, 55, 73, 90, and 95 were amended. An advisory action mailed March 13, 2006 indicated that the January 30 amendments would not be entered. The Appellants submitted a request for continued examination on April 3, 2006, to allow for entry of the aforementioned amendments of January 30.

On April 26, 2006, the Examiner issued a new non-final office action indicating the pendency of claims 1-96 and noting that "Applicant's arguments with respect to claims 1-96 have been considered"; that submission was inclusive of the April 3, 2006, amendments. (*APRIL 26, 2006 OFFICE ACTION*, 7.) Another amendment was presented in a response dated September 26, 2006. In this response, independent claims 1, 37, 55, 73, 90, and 95 were amended. Dependent claims 53, 71, and 93 were also amended. On November 29, 2006, the Examiner issued a final Office action indicating the pendency of claims 1-96 and noting that "Applicant's arguments filed 10/2/2006 have been fully considered"; the submission was inclusive of the September 26, 2006, amendments. (*NOVEMBER 29, 2006 FINAL OFFICE ACTION*, 2.)

In a response dated February 16, 2007, an amendment was presented amending independent claim 1. Further, dependent claims 2-3, 10, 13, 15, 21, 26, 35, and 36 were amended and claims 6-9, 11-12, 16-20, 22-25, 30-34, and 37-96 were canceled. An advisory action mailed April 25, 2007, indicated that the February 16 amendments would not be

entered. The Appellants submitted a request for continued examination on May 25, 2007, to allow for entry of the aforementioned amendments of February 16.

On June 15, 2007, the Examiner issued a new non-final office action indicating the pendency of claims 1-5, 10, 13-15, 21, 26-29, 35, and 36 and noting that "Applicant's arguments with respect to claims 1-5, 10, 13-15, 21, 26-29, 35, and 36 have been considered"; that submission did not indicate that the February 16, 2007, amendments were entered.

(JUNE 15, 2007 OFFICE ACTION, 3.) Another amendment was presented in response dated October 12, 2007. No amendments to the claims were made in this response. On December 28, 2007, the Examiner issued a final office action indicating the pendency of claims 1-5, 10, 13-15, 21, 26-29, 35, and 36 and, again, the Examiner did not indicate that the amendments were entered.

On February 29, 2008, a notice of appeal was filed. Claims 1-5, 10, 13-15, 21, 26-29, 35, and 36 are pending. The rejection of independent claim 1 is appealed herewith.

SUMMARY OF THE CLAIMED SUBJECT MATTER  
(37 C.F.R. § 41.37(C)(1)(v))<sup>1</sup>

*Independent Claim 1*

Claim 1 as presented for appeal recites:

An apparatus for use in a wireless remote site monitoring system, comprising:  
a remote sensor configured to receive a command to enable or disable the sensor and obtain data that is of an environmental nature;  
a control board including a microprocessor and a plurality of serial communication ports, one of the serial communication ports providing a link to the remote sensor, the control board configured to receive and process the data from a variety of types of data collection devices, including the remote sensor, place the data into at least one packet, and transmit the at least one packet from the control board using wireless communications;  
a battery configured to provide primary power to the control board; and  
a solar panel configured to recharge the battery.

See *infra* CLAIMS APPENDIX, 23.

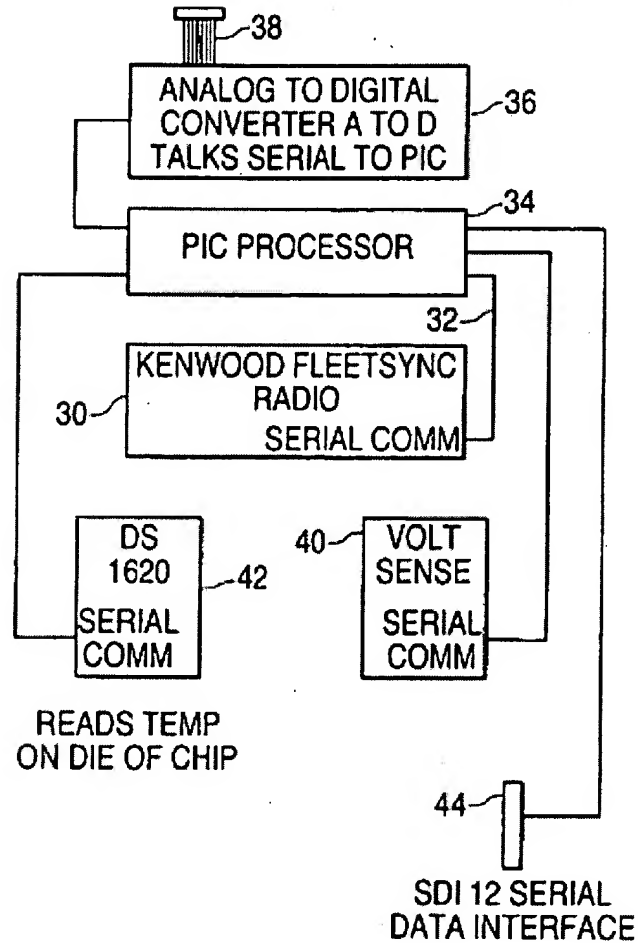
FIGURE 2 of the '583 Application (and reproduced below) "is a block diagram of a ... remote telemetry unit III" in accordance with an embodiment of the present invention.  
(SPECIFICATION AS PUBLISHED, p. 4, ¶ [0054], lines 25-27; FIG. 2.)

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<sup>1</sup> All references to the *SPECIFICATION AS FILED* are exemplary and are not intended to be limiting. The present references are made solely to satisfy the requirements of 37 C.F.R. § 41.37(c)(1)(v). No reference is intended—nor should it be construed—as an admission or denial as to any requirement for patentability, including but not limited to those requirements set forth in 35 U.S.C. § 112, ¶ 1 as they pertain to written description and enablement.

**FIG. 2**

**INTERFACE OF UP TO 8 ANALOG DEVICES**



"The administrator is ... able to use the activate button ... to enable or disable the remote site. By enabling the sensors ... a command is transmitted to the remote site monitoring device to proceed to begin the monitoring device. If the sensor is disabled ... the remote site monitoring device is instructed to halt further data gathering activity with this particular sensor." (*SPECIFICATION AS PUBLISHED*, p. 8, ¶ [0099], lines 34-41.)

"The control board 21 is a microprocessor controlled device that is linked to the sensors." (*SPECIFICATION AS PUBLISHED*, p. 3, ¶ [0044], lines 52-54.) "In [FIG. 2], ... is a telemetry radio 30 with serial communications 32 to a linked microprocessor based control board ..." (*SPECIFICATION AS PUBLISHED*, p. 4, ¶ [0054], lines 27-29.) "The processor 34

receives the data and begins to compile it into a format.” (*SPECIFICATION AS PUBLISHED*, p. 6, ¶ [0071], lines 4-5.) “After all the sensor data is collected, all of the data is compiled or encapsulated into a single data packet.” (*SPECIFICATION AS PUBLISHED*, p. 6, ¶ [0072], lines 14-15.) “For both the voltage ... and temperature ... readings, the preferred embodiment obtains a sensor reading and includes it with each data sensor packet.” (*SPECIFICATION AS PUBLISHED*, p. 5, ¶ [0067], lines 36-38.)

“The packet of data is passed to a wireless device such as a telemetry radio 20 from the control board ... From here, the data is then transmitted ... to another location or remote location ... such as a server...” (*SPECIFICATION AS PUBLISHED*, p. 3, ¶ [0044], lines 49-52.) The preferred embodiment also includes linking a voltage sensor ... to the microprocessor 34 through a serial communication port on the microprocessor 30. The sensor 40 is connected to the battery that powers the complete remote site monitoring device. (*SPECIFICATION AS PUBLISHED*, p. 5, ¶ [0065], lines 20-24.)

“[The remote sensor protocol standard] interfaces a battery powered data recorder with a microprocessor based sensors designed primarily for the acquisition of data.” (*SPECIFICATION AS PUBLISHED*, p. 4, 5, ¶ [0057], lines 62, 1-4, respectively.) “The devices are powered and operated through the use of solar panels and rechargeable battery technology.” (*SPECIFICATION AS PUBLISHED*, p. 6, ¶ [0075], lines 48-49.)

### ***Dependent Claim 15***

Claim 15 as presented for appeal recites:

The apparatus as in claim 1, wherein the remote sensor monitors a liquid level.

See *infra CLAIMS APPENDIX*, 24.

“The processor 34 receives the data and begins to compile it into a format. Initially, a unique identifier is attached to the data. There is a unique identifier associated with each of



the different sensors. For example, if the remote site monitoring device has a plurality of sensors measuring temperature, pressure, liquid and acidity level, then each sensor is assigned this unique ID. The temperature sensor might be T1, the pressure might be P2, the liquid level might be L1, and the acidity level PH1. Therefore each measurement is attached with its respective unique level." (*SPECIFICATION AS PUBLISHED*, p. 6, ¶ [0071], lines 4-14.)

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL  
(37 C.F.R. § 41.37(C)(1)(vi))

- I. Does U.S. Patent 6,031,455 (*Grube et al.*) in combination with U.S. Patent Publication Number 2004/0090950 (*Lauber et al.*) and in further view of U.S. Patent 5,552,776 (*Wade et al.*) render obvious under 35 U.S.C. 103(a) independent claim 1?
  - (A) Does *Grube et al.* Anticipate a “Remote Sensor”?
  - (B) Does *Wade et al.* Anticipate a “Control Board that includes a Microprocessor and a Plurality of Serial Communication Ports”?
  - (C) Would it be Obvious to One of Ordinary Skill in the Art at the Time the Invention was Made to Incorporate the Control Board, Microprocessor, and Communication Ports of *Wade et al.* with the system of *Grube et al.*?
- II. Does U.S. Patent 6,031,455 (*Grube et al.*) in combination with U.S. Patent Publication Number 2004/0090950 (*Lauber et al.*) and in further view of U.S. Patent 5,552,776 (*Wade et al.*) render obvious under 35 U.S.C. 103(a) dependent claim 15?
  - (A) Would it be obvious to one of Ordinary Skill in the Art at the Time the Invention was Made to Take Communication Device 22 of *Grube et al.* which may be a Cellular Telephone, Land Mobile Radio, Portable Radio, or other Portable Device and Adapt Communication Device 22 to Monitor a Liquid Level?

ARGUMENT  
(37 C.F.R. § 41.37(C)(1)(vii))

ARGUMENT  
(37 C.F.R. § 41.37(C)(1)(vii))

I. U.S. PATENT 6,031,455 (*GRUBE ET AL.*) IN COMBINATION WITH U.S. PATENT PUBLICATION NUMBER 2004/0090950 (*LAUBER ET AL.*) AND IN FURTHER VIEW OF U.S. PATENT 5,552,776 (*WADE ET AL.*) DO NOT RENDER OBVIOUS UNDER 35 U.S.C. 103(A) INDEPENDENT CLAIM 1.

(A) *Grube et al. Does Not Anticipate a "Remote Sensor"*

When evaluating the scope of a claim, every limitation in the claim must be considered. See *Diamond v. Diehr*, 450 U.S. 175, 189 (1981). In this context, the Appellants note that independent claim 1 of the '583 Application recites a remote sensor. See *infra* CLAIMS APPENDIX 23.

The Examiner initially argued that the sensor 37 of *Grube et al.* read on a sensor of claim 1 in a non-final Office action mailed on April 26, 2006. In an amendment after final, received on February 21, 2007, Applicants subsequently attempted to amend claim 1 to recite a remote sensor. The Examiner has mailed three communications since the amendment was made and has either not entered or addressed the amendment. The three communications include an Advisory Action mailed on April 25, 2007 in which the Examiner refused to enter the claim amendment, a non-final Office action mailed on June 15, 2007, in response to an intervening RCE that affected the desired claim amendment, and a final Office action mailed on December 28, 2007.

In the non-final Office action mailed on June 15, 2007, the Examiner did not address Applicants' arguments concerning the further limitation of "remote." Instead, the Examiner stated that the argument was "moot in view of the new grounds of rejection." (non-final Office action mailed June 15, 2007, page 3). In the response to the non-final Office action mailed October 12, 2007, the Applicants have pointed out an Examiner Note in conjunction with form paragraph 7.38 under MPEP §707.07(f) which explains that when arguments are moot because of a new ground of rejection "[t]he examiner must, however, address any

arguments presented by the applicant which are still relevant to any references being applied.” Applicants then noted the argument that the sensor 37 of *Grube et al.* does not read on the remote sensor of claim 1 was still quite relevant to the references being applied and the Examiner must address it.

In the final Office action mailed December 28, 2007, the Examiner, again, did not address Applicants’ arguments concerning the further limitation of “remote,” rather, the Examiner stated that the argument was rejected “for reasons of record as discussed in the previous Office Action.” (final Office action mailed December 28, 2007, page 2).

To date, the Examiner has not offered a rebuttal argument.

Further, Applicants state that *Grube et al.* teaches away from a remote sensor. Applicants contend that the usage of “remote sensor” in *Grube et al.* provides the ordinary and customary meaning of the term “remote sensor,” namely, the meaning that the term would have to a person of ordinary skill in the art in question, and that this meaning is consistent with the specification of the pending application. *Grube et al.* teaches that “[t]ypically, a remote sensor remains in a fixed location, senses a particular condition for the given location, and provides the sensed condition to a central processing device.” (*Grube et al.*, col. 1 lines 14-17). Applicants note that this is not to say that a remote sensor must be immobile, only that in typical use, a remote sensor remains in a fixed location. In the present application, paragraph [0006] discusses remote sensors of the prior art. Here, examples of such sensors “remotely monitor assets such as pipelines or storage tanks.” *SPECIFICATION AS FILED*, P. 1, ¶ [0006]. These are sensors that, in use, remain in a fixed location. In FIG. 1 of the present application, remote sensors 14, 16, and 18 are shown in conjunction with a tank 12. *SPECIFICATION AS FILED*, P. 3., ¶ [0041] and FIG. 1. Here, too, the remote sensors 14, 16, and 18 remain in a fixed location while in use.

It should be clear that the broadest reasonable interpretation of “remote sensor” that is consistent with Applicants’ specification would not encompass the sensors 37 in the communication devices 22 of *Grube et al.* The communication devices 22 “may be cellular telephones, land mobile radios, portable radios” or basically any other portable

communication device (*Grube et al.*, col. 2 line 65 – col. 3 line 3). These devices are not intended to remain in a fixed location while in use, and as has been noted, *Grube et al.* places the sensors in the communication devices 22 specifically to make the sensors mobile to overcome issues of prior art remote sensors. Therefore, the sensor 37 of *Grube et al.* does not read on a remote sensor, and further, *Grube et al.* teaches away from substituting a remote sensor for sensor 37.

- (B) *Wade et al.* does not Anticipate a “Control Board that includes a Microprocessor and a Plurality of Serial Communication Ports, the control board configured to receive and process the data from a variety of types of data collection devices, including the remote sensor” *APRIL 26, 2006 OFFICE ACTION*, 7.

Claim 1 recites a control board including a microprocessor and a plurality of serial communication ports, one of the serial communication ports providing a link to the remote sensor. See *infra CLAIMS APPENDIX*, 23. In the Examiner’s non-final Office action response mailed June 15, 2007, the Examiner admitted that *Grube et al.* in view of *Lauber et al.* “do not teach a control board including a microprocessor and a plurality of serial communication ports.” (*JUNE 15, 2007 OFFICE ACTION*, 2.) However, the Examiner nevertheless contends that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the control board, microprocessor, and communication ports” of *Wade et al.* into the system of *Grube et al.* in view of *Lauber et al.* for the reason that it “would have facilitated transmission/reception for [the] purpose of monitoring the computer devices in the system by allowing faster communication between in [sic] the computer devices and the microprocessor.” (*JUNE 15, 2007 OFFICE ACTION*, 2, 3.)

Applicants disagree that *Wade et al.* teaches a control board that includes a microprocessor and a plurality of serial communication ports, as required by claim 1. Regarding the teaching of *Wade et al.*, the Examiner has cited to column 15 lines 29-58 and claim 24. The portion of column 15 referred to by the Examiner pertains to FIG. 9, reproduced below. It is apparent that in *Wade et al.* the control board 910 includes neither the microprocessor controller 921 nor the serial communication ports 943. Applicants note that FIG. 9 of *Wade et al.* shows a power input connector 912 within the box that designates the

control board 910 and explains that "CPU board 910 contains a power input connector 912" (Wade *et al.*, col. 15 lines 32-34). On the other hand, FIG. 9 of Wade *et al.* shows microprocessor controller 921 separated from the control board 910 by power control circuitry 926. Although Wade *et al.* does not specifically address the relationship between the control board 910 and the microprocessor controller 921, Wade *et al.* does describe, for example, the relationship between the power input connector 912 and the power control circuitry 926 as "connected" (Wade *et al.*, col. 15 lines 36-37) where the two components are joined in FIG. 9 by a line 939 of communication. Therefore, the lines 939 of communication in FIG. 9 show how components are connected to one another, whereas sub-components are shown as residing within the components they comprise, such as options table 901 within non-volatile memory 924. As microprocessor controller 921 is connected to power control circuitry 926 which is connected to control board 910, and not shown or described as being included as part of the control board 910, it follows that in Wade *et al.* the control board 910 does not include the microprocessor controller 921. For similar reasons, the control board 910 clearly does not include the serial communication ports 943.

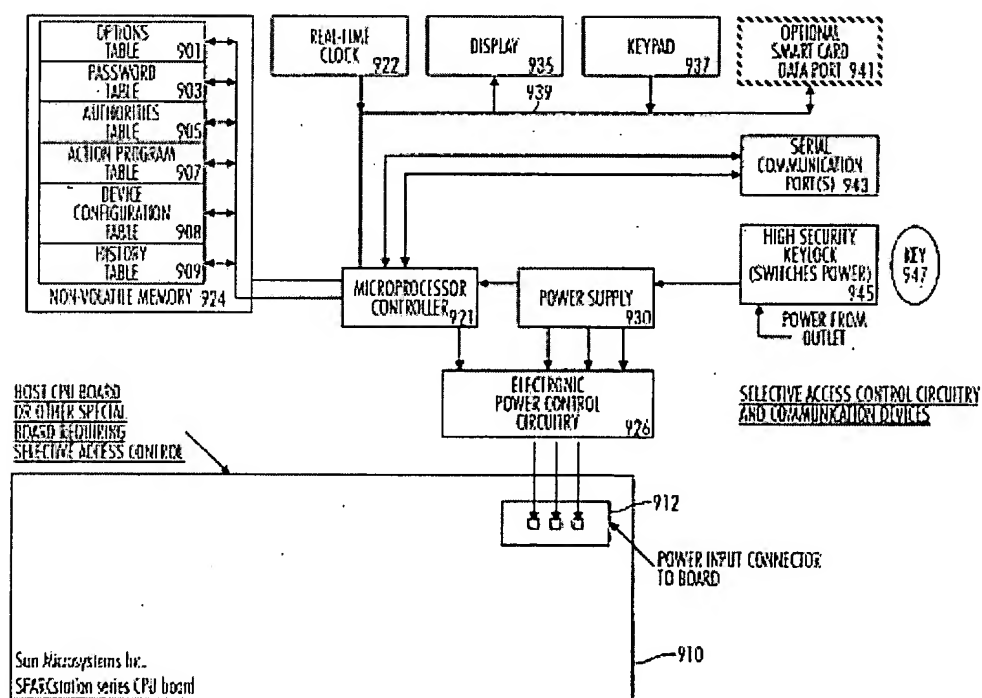


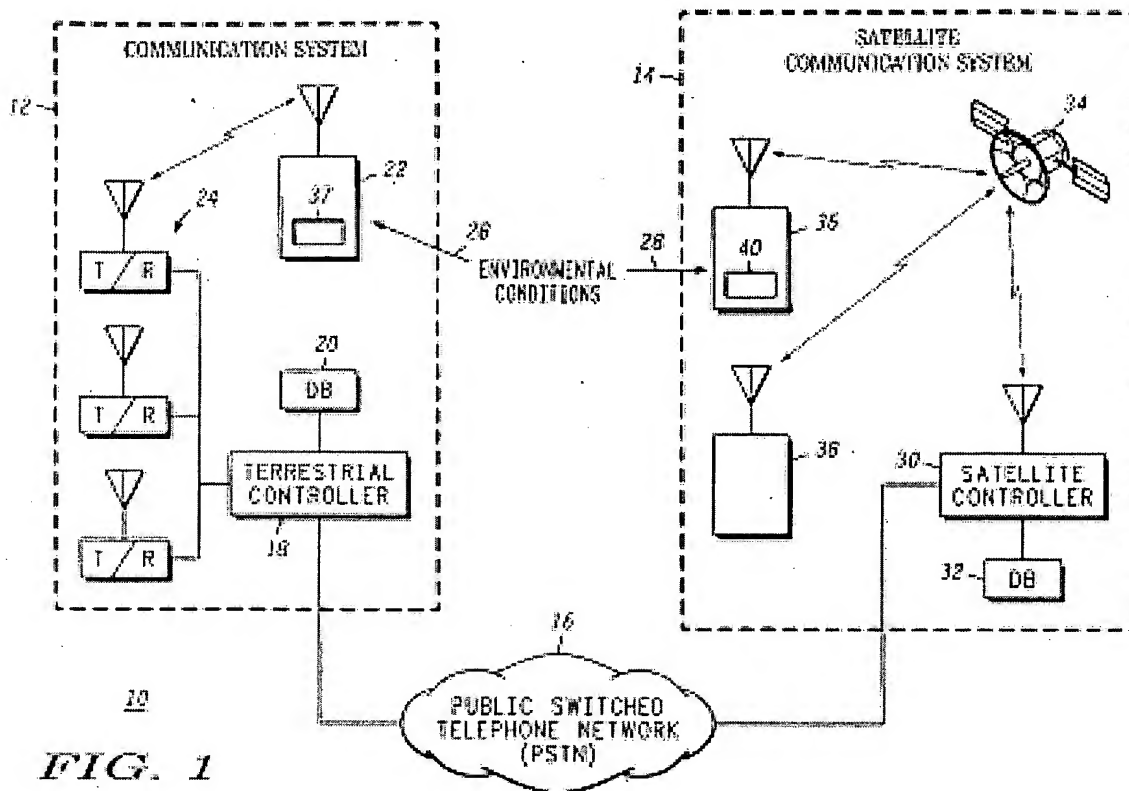
FIG. 9

- C. It Would Not be Obvious to one of Ordinary Skill in the Art at the Time the Invention was made to Incorporate the Control Board, Microprocessor, and Communication Ports of *Wade et al.* with the System of *Grube et al.*

Applicants also disagree that one of ordinary skill in the art would incorporate the control board, microprocessor, and serial communication ports of *Wade et al.* into the system of *Grube et al.* in view of *Lauber et al.* Taking a step back for a moment, it is not entirely clear what modifications to the system of *Grube et al.* the Examiner is suggesting would be obvious in view of *Lauber et al.*, before even considering the further modification in view of *Wade et al.* In the April 26, 2006 Office action the Examiner argued that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a [sic] the control board and microprocessor (144) of *Lauber* into the processing unit of *Grube*” (*APRIL 26, 2006 OFFICE ACTION*, 3) and in the June 15, 2007 Office action the Examiner admits that *Grube et al.* in view of *Lauber et al.* “do not teach a control board including a microprocessor and a plurality of serial communication ports.” (*JUNE 15, 2007 OFFICE ACTION*, 2.) With respect to claim 1, the Examiner has not previously relied upon *Lauber et al.* for any other teaching other than for a control board including a microprocessor and a plurality of serial communication ports. Applicants are left to assume that the Examiner is no longer relying on *Lauber et al.* with respect to claim 1, and will therefore treat the rejection of claim 1 as a rejection under 35 U.S.C. §103(a) over the combination of *Grube et al.* in view of *Wade et al.* Applicants have respectfully requested clarification as to the teaching of *Lauber et al.* relied up on with respect to claim 1, (*OCTOBER 12, 2007 RESPONSE TO OFFICE ACTION*, 9, 10) however, the Examiner has not responded.

If view of the above presumed understanding of the Examiner’s position, Applicants turn to the Examiner’s proposed modification of the system of *Grube et al.* in view of *Wade et al.* Specifically, the Examiner has asserted that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the control board, microprocessor, and communication ports of *Wade* into the system of *Grube*” (*JUNE 15, 2007 OFFICE ACTION*, 2) without particularly elucidating anything about the proposed modification

to Grube et al. FIG. 1 of Grube et al. is reproduced below.



Applicants are left to ponder whether the Examiner is here suggesting that “incorporating” means replacing the processing unit 70 (see FIG. 3) of the terrestrial controller 18 with the control board, microprocessor, and communication ports of *Wade et al.*, or adding the control board, microprocessor, and communication ports of *Wade et al.* to the processing unit 70. Perhaps, on the other hand, the Examiner is suggesting replacing the processing unit 50 (see FIG. 2) of communication device 22 with the control board, microprocessor, and communication ports of *Wade et al.*, or adding the control board, microprocessor, and communication ports of *Wade et al.* to the processing unit 50. Maybe the Examiner has yet something else in mind.

Applicants note that, per 37 C.F.R. §104(c)(2), “[w]hen a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not



apparent, must be clearly explained and each rejected claim specified.” Moreover, a rejection violates 35 U.S.C. §132 if it “is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection,” (*Chester v. Miller*, 906 F.2d 1574, 1578, 15 USPQ2d 1333, 1337 (Fed Cir. 1990)). Here, *Grube et al.* is both complex, and shows an invention other than that claimed by the Applicants (else the Examiner presumably would have rejected claim 1 as being anticipated). Nevertheless, the particular parts of the system of *Grube et al.* that the Examiner believes would be obvious to modify, replace, or augment have not been designated. The lack of a clear explanation of the specific proposed modification of the system of *Grube et al.* renders the rejection so uninformative that it prevents the Applicants from recognizing and seeking to counter the grounds for rejection, and therefore violates 35 U.S.C. §132.

Nevertheless, Applicants guess that the Examiner is suggesting that it would be obvious to replace the processing unit 50 (see FIG. 2) of communication device 22 with the control board, microprocessor, and communication ports of *Wade et al.* In *Grube et al.* the communication devices 22 “may be cellular telephones, land mobile radios, portable radios” or basically any other portable communication device (col. 2 line 65 – col. 3 line 3) and FIGs. 1 and 2 of *Grube et al.* both show the sensor 37 as a component of the communication device 22. *Wade et al.*, on the other hand, shows in FIG. 8 a sensor 271 configured to monitor microprocessor controller 220 and a serial communication port 243 to permit communication between the microprocessor controller 220 and various external computing devices (col. 14 lines 50-52) and not the sensor 271. Although *Wade et al.* does not explicitly explain the function of the serial ports 943 in FIG. 9, Applicants assume that the function is the same as that of the serial communication port 243 of FIG. 8. In short, both *Wade et al.* and *Grube et al.* teach devices that include a sensor in communication with a microprocessor; while *Wade et al.* further provides serial ports 943, these serial ports 943 have nothing to do with the communication between the sensor 271 and the microprocessor controller 220. Nevertheless, the Examiner seems to be suggesting that it would be obvious to incorporate a serial port into the system of *Grube et al.* to provide the link to the sensor 37 when *Wade et al.* teaches

that serial ports are provided to communicate with external computing devices and not with internal sensors.

Applicants also wish to address the specific motivation to combine the references that has been advanced by the Examiner, namely, that it “would have facilitated transmission/reception for [the] purpose of monitoring the computer devices in the system by allowing faster communication between the computer devices and the microprocessor.” (JUNE 15, 2007 OFFICE ACTION, 2, 3.) Applicants note that the references to “computer devices” appears to be out of context since in *Grube et al.* the sensor 37 communicates with the processing unit 50 which communicates with the terrestrial controller 18. Given this understanding of *Grube et al.*, Applicants have interpreted the motivation advanced by the Examiner to be suggesting that transmission/reception for the purpose of monitoring the sensor 37 would be faster if the processing unit 50 was replaced by the control board, microprocessor, and communication ports of *Wade et al.* If this is indeed what the Examiner means, the Examiner has not explained why communications would be any faster between the sensor 37 and the microprocessor controller 220 of *Wade et al.* (which apparently is in place of the processing unit 50 in the hypothetical modified system of *Grube et al.*) if a serial port were employed between them, as compared to the original system of *Grube et al.* Applicants question why *Wade et al.* did not employ a serial port in such a manner if it would make for faster communications. Moreover, the Examiner did not cite any authority, such as a portion of *Wade et al.*, for the proposition that it would have facilitated transmission/reception for the purpose of monitoring the computer devices in the system by allowing faster communication between the computer devices and the microprocessor. Also, none of this seems to address the value of also incorporating the control board of *Wade et al.*, unless it, too, somehow facilitates transmission/reception for the purpose of monitoring the sensor 37 in the system by allowing faster communication between the sensor 37 and the microprocessor. Lastly, Applicants note the Federal Circuit’s emphasis in relying on *objective evidence* and making *specific factual findings* with respect to the motivation to combine (See *In re Lee*, 277 F.3d 1338, 1342-44 (Fed. Cir. 2002); see also MPEP §2143.01(I)), and argue that such evidence and findings are surely lacking in the present rejection.

II. U.S. PATENT 6,031,455 (*GRUBE ET AL.*) IN COMBINATION WITH U.S. PATENT PUBLICATION NUMBER 2004/0090950 (*LAUBER ET AL.*) AND IN FURTHER VIEW OF U.S. PATENT 5,552,776 (*WADE ET AL.*) DO NOT RENDER OBVIOUS UNDER 35 U.S.C. 103(A) DEPENDENT CLAIM 15.

(A) *Grube et al. Does Not Anticipate* “wherein the remote sensor monitors a liquid level” as recited in claim 15 nor does *Grube et al. suggest Adaptability of a Sensor to Monitor a Liquid Level*

Applicants repeatedly provided an argument for the further patentability of dependent claim 15 (*FEBRUARY 16, 2007 RESPONSE TO FINAL OFFICE ACTION, P.10, 11, MAY 25, 2007 REQUEST FOR CONTINUED EXAMINATION P. 10, 11, AND OCTOBER 12, 2007 RESPONSE TO RESPONSE TO NON-FINAL OFFICE ACTION, P. 13*). The examiner has yet to respond.

In the non-final Office Action mailed on April 26, 2006, the Examiner addressed liquid level monitoring with respect to now cancelled claim 16 by suggesting that “since Grube teaches monitoring weather conditions, an [sic] monitoring of a liquid level could constitute a weather condition associated with rain or flooding” (*APRIL 26, 2006 NON-FINAL OFFICE ACTION, P. 6*) it would have been obvious to use sensor 37 to monitor a liquid level.

Applicants contend that it would not have been obvious to one of ordinary skill in the art at the time the invention was made to adapt a communication device 22 of *Grube et al.* which may be a cellular telephone, land mobile radio, portable radio, or other portable device to monitor a liquid level. The Examiner has not cited to a particular prior art reference that provides a liquid level monitor that could be combined with the communication device 22 of *Grube et al.*, nor has the Examiner even taken Official Notice of such devices. Applicants have repeatedly and respectfully requested that the Examiner either allow claim 15 or provide both an example of a liquid level monitoring device that could be combined with a portable communication device without making the portable communication device unsuitable for its intended use, and provide a motivation to make the combination. For example, Applicants would argue that one of ordinary skill in the art at the time the invention was made would not have been motivated to combine a rain gage with a cell phone as a rain gage would render the cell phone unsuitable for its intended use since the rain gage would have to be held in a fixed orientation and be left in the rain.

As noted above, even where an examiner uses form paragraph 7.38 (Arguments Are Moot Because of New Ground(s) of Rejection) the examiner must address any arguments presented by the applicant which are still relevant to any references being applied. Here, the argument that it would not have been obvious to one of ordinary skill in the art at the time the invention was made to take a communication device 22 of *Grube et al.* which may be a cellular telephone, land mobile radio, portable radio, or other portable device and adapt communication device 22 to monitor a liquid level, is still relevant to the references being applied. Again, it is improper to simply dismiss this argument as being moot.

## CONCLUSION AND REQUESTED RELIEF

Independent claim 1 of the present application requires a remote sensor. U.S. Patent 6,031,455 to *Grube et al.* fails to disclose a remote sensor. Additionally, *Grube et al.* teaches away from a remote sensor.

Further, independent claim 1 of the present application requires a "control board that includes a microprocessor and a plurality of serial communication ports." U.S. Patent 5,552,776 to *Wade et al.* fails to disclose a control board that includes a microprocessor and a plurality of serial communication ports. Moreover, there is no support or evidence why it would be obvious to one of ordinary skill in the art at the time the invention was made to incorporate the control board, microprocessor, and communication ports identified in *Wade et al.* with the system of *Grube et al.*

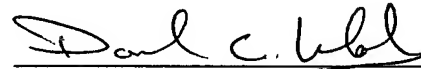
Dependent claim 15 of the present application requires "wherein the remote sensor monitors a liquid level." U.S. Patent 6,031,455 to *Grube et al.* fails to disclose a remote sensor that monitors a liquid level. Further, there is not support or evidence regarding a liquid level monitor that may be combined with the communication device in *Grube et al.*

In light of the Examiner's failure to disclose each and every element of the presently claimed invention, a *prima facie* case of obviousness has not been established. As such, the Examiner's rejection is overcome. The Appellants, therefore, respectfully request that the final rejection be overturned and the present application remanded with instructions to allow the same.

Respectfully submitted,  
Gregory M. Glenn, et al.

May 30, 2008

By:



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**CLAIMS APPENDIX**  
**(37 C.F.R. § 41.37(C)(1)(viii))**

The claims involved in the present appeal submitted in accordance with MPEP § 714(I)(C), 37 C.F.R. § 41.33(a), and 37 C.F.R. § 1.116(b)(2) are as follows:

1. An apparatus for use in a wireless remote site monitoring system, comprising:
  - a remote sensor configured to receive a command to enable or disable the sensor and obtain data that is of an environmental nature;
  - a control board including a microprocessor and a plurality of serial communication ports, one of the serial communication ports providing a link to the remote sensor, the control board configured to receive and process the data from a variety of types of data collection devices, including the remote sensor, place the data into at least one packet, and transmit the at least one packet from the control board using wireless communications;
  - a battery configured to provide primary power to the control board; and
  - a solar panel configured to recharge the battery.
2. The apparatus as in claim 1, wherein the remote sensor is a digital sensor.
3. The apparatus as in claim 1, wherein the remote sensor is an analog sensor.
4. The apparatus as in claim 3, further comprising an analog to digital converter linked to the control board.
5. The apparatus as in claim 2, wherein the digital sensor is compatible with a protocol selected from the group consisting of serial data interface twelve (SDI-12) protocol, 12C, RS-232 and RS-432.
10. The apparatus as in claim 1, wherein the remote sensor comprises a temperature sensor.

13. The apparatus as in claim 1, wherein the remote sensor comprises a voltage sensor.

14. The apparatus as in claim 13, wherein the voltage sensor measures the voltage of a solar/battery system.

15. The apparatus as in claim 1, wherein the remote sensor monitors a liquid level.

21. The apparatus as in claim 1, wherein the compressed data is transmitted to a base station or General Packet Radio Service/Global System for Mobile Communication (GPRS/GSM) gateway.

26. The apparatus as in claim 1, wherein the data is an N-byte wide message.

27. The apparatus as in claim 26, wherein the N-byte wide message is a maximum of 96 bytes.

28. The apparatus as in claim 26, wherein the N-byte wide message is a maximum of 512 bytes.

29. The apparatus as in claim 26, wherein the N-byte wide message is comprised of a header and sensor data.

35. The apparatus as in claim 1 ~~34~~, further comprising a memory device configured to store the data.



36. The apparatus as in claim 35, wherein the data is stored based upon an identifier associated with the remote sensor.

**EVIDENCE APPENDIX**  
**37 C.F.R. § 41.37(C)(1)(ix)**

No evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 has been presented or entered during prosecution of the present application. As such, no evidence under the aforementioned sections is presented or referenced herewith.

**RELATED PROCEEDINGS APPENDIX**  
**37 C.F.R. § 41.37(C)(1)(x)**

No related proceedings including appeals or interferences—either concluded, ongoing, or otherwise prospective—are known to the Appellants, real-party-in-interest, nor their agents and representatives. As such, no decisions or documentation related to such a proceedings is presented or referenced herewith.